Check Nominal mode configuration
File: H_FCP_DHS_4003.xls
Author: S. Manganelli

Procedure Summary

Objectives

This procedure describes the steps needed to check the S/C status in Nominal mode.

Summary of Constraints

n/a

Spacecraft Configuration

Start of Procedure

n/a

End of Procedure

n/a

Reference File(s)

Input Command Sequences

Output Command Sequences

HFD4003A
HFD4003B
HFD4003C
HFD4003D

Referenced Displays

ANDs **GRDs** **SLDs**

(None)

Configuration Control Information

DATE	FOP ISSUE	VERSION	MODIFICATION DESCRIPTION	AUTHOR	SPR REF
31/01/08		1	Created	cmevi-hp	
01/02/08		2	Batch update of TC flags.	cmevi-hp	
20/06/08	1	3	Database check	S. Manganelli	
01/12/08	2	4	Procedure updated according to latest version received from industry on 24/10/2008	cmevi-hp	
03/07/09	2.5	5	Following TAS inputs due to ASW update (XPONDER LCL always ON)	S. Manganelli	

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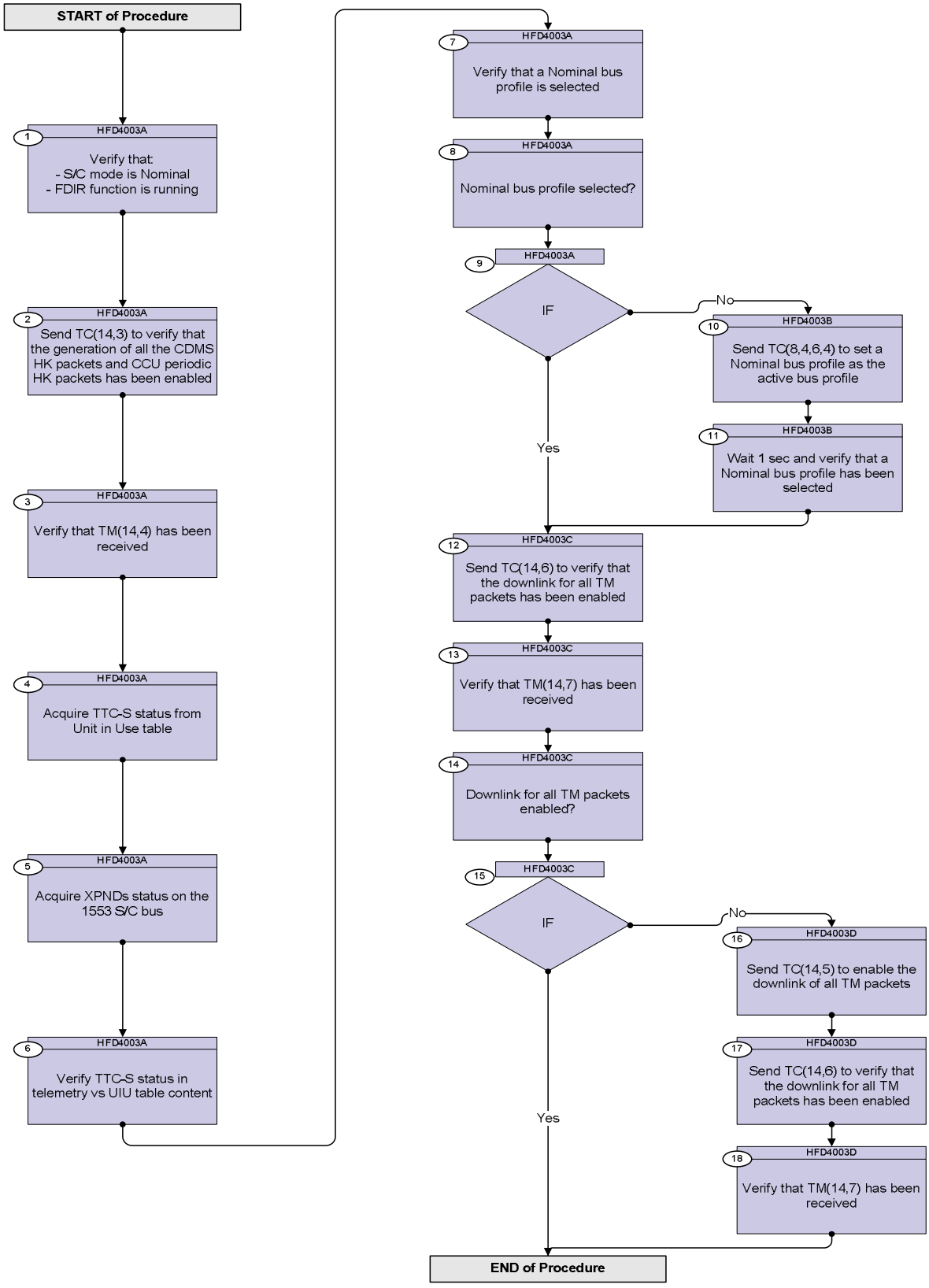
Procedure Flowchart Overview



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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Beginning of Procedure		
		TC Seq. Name :HFD4003A (Check nominal configuration) *TimeTag Type:* *Sub Schedule ID:*		
1		*Verify that:* *- S/C mode is Nominal* *- FDIR function is running*		Next Step: 2
		Verify Telemetry **CurrentMode DEL34170**	**= Nominal**	(None)
		Verify Telemetry **FdirSts DEG23170**	**= Running**	(None)
2		*Send TC(14,3) to verify that the generation of all the CDMS HK packets and CCU periodic HK packets has been enabled*		Next Step: 3
		When this request is received, the enabled telemetry source packet of the CDMU are determined and a report (14,4) is generated.		
		Execute Telecommand **ReportEnabledTm** *TC Control Flags :* **GBM IL DSE** **--Y -- ---** *Subsch. ID : 10* Det. descr. : Report Enabled Telemetry Packets	**DC904180**	
3		*Verify that TM(14,4) has been received*		Next Step: 4
		The following HK have to be enabled: **- CDMS: packet IDs 0x0 (High Rate), 0x8 (Low Rate), 0x40 (P1), 0x41 (P4), 0x42 (P64);** **- CCU: packet IDs 0x44 (CCU A Monit #1), 0x47 (CCU B Monit #1).**		
		Verify Packet Reception **TM Packet Generation Status Report** *Packet Details:* **APID:** **Type:** **Subtype:** **PI1:** **PI2:**	**TMpktGenRep** **16** **14** **4**	

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Verify Telemetry **N** **DE140180**		(None)
		The following 3 parameters are repeated N times		
		Verify Telemetry **Type** **DE141180**		(None)
		Verify Telemetry **Sub-Type** **DE142180**		(None)
		Verify Telemetry **Packet-ID** **DE143180**		(None)
4		*Acquire TTC-S status from Unit in Use table*		Next Step: 5
		RFDN switches		
		Expected configuration (assuming to work with TTC S/S branch 1 and that no RFDN failure occured): **SW 1:** **- Fail="Not failed"** **- Functional="OFF"** **- Logical="Nominal"** **- Use="In use"** **SW 2:** **- Fail="Not failed"** **- Functional="ON"** **- Logical="Redundant"** **- Use="Not in use"**		
		SW 3: **Fail="Not failed"** **Functional="OFF"** **Logical="Nominal"** **Use="In use"** **SW 4:** **Fail="Not failed"** **Functional="ON"** **Logical="Redundant"** **Use="Not in use"**		
		Verify Telemetry **Rfdn1FailSts** **DEH48170**		(None)
		Verify Telemetry **Rfdn1FuncSts** **DEH49170**		(None)
		Verify Telemetry **Rfdn1LogSts** **DEH50170**		(None)
		Verify Telemetry **Rfdn1Use** **DEH51170**		(None)

Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Verify Telemetry **Rfdn2FailSts** **DEH52170**		(None)
		Verify Telemetry **Rfdn2FuncSts** **DEH53170**		(None)
		Verify Telemetry **Rfdn2LogSts** **DEH54170**		(None)
		Verify Telemetry **Rfdn2Use** **DEH55170**		(None)
		Verify Telemetry **Rfdn3FailSts** **DEH56170**		(None)
		Verify Telemetry **Rfdn3FuncSts** **DEH57170**		(None)
		Verify Telemetry **Rfdn3LogSts** **DEH58170**		(None)
		Verify Telemetry **Rfdn3Use** **DEH59170**		(None)
		Verify Telemetry **Rfdn4FailSts** **DEH60170**		(None)
		Verify Telemetry **Rfdn4FuncSts** **DEH61170**		(None)
		Verify Telemetry **Rfdn4LogSts** **DEH62170**		(None)
		Verify Telemetry **Rfdn4Use** **DEH63170**		(None)
		XPND 1/2 Transmitter and TWT Assembly 1/2		
		Expected configuration (assuming to work with TTC S/S branch 1 and that no TTC failure occured): **XPND1:** **- Fail="Not failed"** **- Functional="ON"** **- Logical="Nominal"** **- Use="In use"** **XPND2:** **- Fail="Not failed"** **- Functional="OFF"** **- Logical="Redundant"** **- Use="Not in use"**		

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		TWTA1: **- Fail="Not failed"** **- Functional="ON"** **- Logical="Nominal"** **- Use="In use"** **TWTA2:** **- Fail="Not failed"** **- Functional="OFF"** **- Logical="Redundant"** **- Use="Not in use"**		
		Verify Telemetry **XpndTx1FailSts** **DEL26170**		(None)
		Verify Telemetry **XpndTx1FuncSts** **DEL27170**		(None)
		Verify Telemetry **XpndTx1LogSts** **DEL28170**		(None)
		Verify Telemetry **XpndTx1Use** **DEL29170**		(None)
		Verify Telemetry **XpndTx2FailSts** **DEL30170**		(None)
		Verify Telemetry **XpndTx2FuncSts** **DEL31170**		(None)
		Verify Telemetry **XpndTx2LogSts** **DEL32170**		(None)
		Verify Telemetry **XpndTx2Use** **DEL33170**		(None)
		Verify Telemetry **Twta1FailSts** **DEL18170**		(None)
		Verify Telemetry **Twta1FuncSts** **DEL19170**		(None)
		Verify Telemetry **Twta1LogSts** **DEL20170**		(None)
		Verify Telemetry **Twta1Use** **DEL21170**		(None)
		Verify Telemetry **Twta2FailSts** **DEL22170**		(None)
		Verify Telemetry **Twta2FuncSts** **DEL23170**		(None)
		Verify Telemetry **Twta2LogSts** **DEL24170**		(None)
		Verify Telemetry **Twta2Use** **DEL25170**		(None)

Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		EPC 1/2 and TWT Amplifier 1/2		
		Expected configuration (assuming to work with TTC S/S branch 1 and that no TTC failure occured): **EPC1:** **- Fail="Not failed"** **- Functional="ON"** **- Logical="Nominal"** **- Use="In use"** **EPC2:** **- Fail="Not failed"** **- Functional="OFF"** **- Logical="Redundant"** **- Use="Not in use"**		
		TWT1: **- Fail="Not failed"** **- Functional="ON"** **- Logical="Nominal"** **- Use="In use"** **TWT2:** **- Fail="Not failed"** **- Functional="OFF"** **- Logical="Redundant"** **- Use="Not in use"**		
		Verify Telemetry **Epc1FailSts DEG24170**		(None)
		Verify Telemetry **Epc1FuncSts DEG25170**		(None)
		Verify Telemetry **Epc1LogSts DEG26170**		(None)
		Verify Telemetry **Epc1Use DEG27170**		(None)
		Verify Telemetry **Epc2FailSts DEG28170**		(None)
		Verify Telemetry **Epc2FuncSts DEG29170**		(None)
		Verify Telemetry **Epc2LogSts DEG30170**		(None)
		Verify Telemetry **Epc2Use DEG31170**		(None)
		Verify Telemetry **TwtAmp1FailSts DEH12170**		(None)
		Verify Telemetry **TwtAmp1FuncSts DEH13170**		(None)

Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Verify Telemetry **TwtAmp1LogSts** **DEH14170**		(None)
		Verify Telemetry **TwtAmp1Use** **DEH15170**		(None)
		Verify Telemetry **TwtAmp2FailSts** **DEH16170**		(None)
		Verify Telemetry **TwtAmp2FuncSts** **DEH17170**		(None)
		Verify Telemetry **TwtAmp2LogSts** **DEH18170**		(None)
		Verify Telemetry **TwtAmp2Use** **DEH19170**		(None)
		XPND 1/2 RX		
		Expected configuration (assuming to work with TTC S/S branch 1 and that no TTC failure occured): **RX1:** **- Fail="Not failed"** **- Functional="ON"** **- Logical="Nominal"** **- Use="In use"** **RX2:** **- Fail="Not failed"** **- Functional="ON"** **- Logical="Redundant"** **- Use="Not in use"**		
		Verify Telemetry **XpndRx1FailSts** **DEL59170**		(None)
		Verify Telemetry **XpndRx1FuncSts** **DEL58170**		(None)
		Verify Telemetry **XpndRx1LogSts** **DEL57170**		(None)
		Verify Telemetry **XpndRx1Use** **DEL56170**		(None)
		Verify Telemetry **XpndRx2FailSts** **DEL63170**		(None)
		Verify Telemetry **XpndRx2FuncSts** **DEL62170**		(None)
		Verify Telemetry **XpndRx2LogSts** **DEL61170**		(None)
		Verify Telemetry **XpndRx2Use** **DEL60170**		(None)

Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
5		*Acquire XPNDs status on the 1553 S/C bus*		Next Step: 6
		Expected configuration (assuming to work with TTC S/S branch 1 and that no TTC failure occured): **- XPND1: "ON" and "Valid"** **- XPND2: "OFF" and "Invalid"**		
		Verify Telemetry **XPND1On_Off DEFCG160**		(None)
		Verify Telemetry **XPND1Val_Inval DEFCK160**		(None)
		Verify Telemetry **XPND2On_Off DEFD1160**		(None)
		Verify Telemetry **XPND2Val_Inval DEFD5160**		(None)
6		*Verify TTC-S status in telemetry vs UIU table content*		Next Step: 7
		RFDN TMs		
		Expected configuration (assuming to work with TTC S/S branch 1 and that no RFDN failure occured): **- SW1: "Pos A"=1 and "Pos B"=0** **- SW2: "Pos A"=0 and "Pos B"=1** **- SW3: "Pos A"=1 and "Pos B"=0** **- SW4: "Pos A"=0 and "Pos B"=1**		
		Verify Telemetry **RFDN SW1 Pos A RMB05436**		(None)
		Verify Telemetry **RFDN SW1 Pos B RMB09436**		(None)
		Verify Telemetry **RFDN SW2 Pos A RMB06436**		(None)
		Verify Telemetry **RFDN SW2 Pos B RMB10436**		(None)
		Verify Telemetry **RFDN SW3 Pos A RMB07436**		(None)
		Verify Telemetry **RFDN SW3 Pos B RMB11436**		(None)

Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Verify Telemetry **RFDN SW4 Pos A RMB08436**		(None)
		Verify Telemetry **RFDN SW4 Pos B RMB12436**		(None)
		TM Encoder (in use) and PCDU TMs		
		Expected configuration (assuming to work with TTC S/S branch 1 and that no TTC failure occured): **- XPND1 LCL: "ON"** **- TWTA1 OP-LCL: "ON"** **- XPND2 LCL: "ON"** **- TWTA2 OP-LCL: "OFF"**		
		Verify Telemetry **TME_BITRATE DEMRF160**	**= 150 Kbps**	(None)
		Verify Telemetry **Xpnd1Tx_L23_S WM12D565**		(None)
		Verify Telemetry **Twta_1_L49_1S WM22E565**		(None)
		Verify Telemetry **Twta_1_L49_2S WM22K565**		(None)
		Verify Telemetry **Xpnd2Tx_L16_S WM92C565**		(None)
		Verify Telemetry **Twta_2_L50_1S WM92E565**		(None)
		Verify Telemetry **Twta_2_L50_2S WM92K565**		(None)
		XPND1/2 1553 S/C bus TMs		
		Expected configuration (assuming to work with TTC S/S branch 1 and that no TTC failure occured): **XPND1:** **- TM MI=1.2** **- RNG MI=0.6** **- LR1="OFF"** **- LR2="OFF"** **- MR="ON"** **- HR="OFF"** **- RNG="OFF"** **- CM="OFF"** **- ER="OFF"** **- Output Power Level="-4 dBm"** **- Internal Bit Pattern Generator="OFF"**		

Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		XPND2: is expected to have the same configuration as before transition to Nominal mode.		
		Verify Telemetry **X1 TM MD ID-TMI RMB33442**		(None)
		Verify Telemetry **X1 RNGMD ID-RMI RMB32442**		(None)
		Verify Telemetry **X1 LowRate-1 MD RMB30442**		(None)
		Verify Telemetry **X1 LowRate-2 MD RMB31442**		(None)
		Verify Telemetry **X1 MedRate-MRM RMB29442**		(None)
		Verify Telemetry **X1 HIRateMD-HRM RMB28442**		(None)
		Verify Telemetry **X1 Rang MOD-RM RMB27442**		(None)
		Verify Telemetry **X1 Coher MOD-CM RMB26442**		(None)
		Verify Telemetry **X1 Ext Ref - ER RMB25442**		(None)
		Verify Telemetry **X1 OutPowLevSet RMB35442**		(None)
		Verify Telemetry **X1 IntBitPatGen RMB34442**		(None)
		Verify Telemetry **X2 TM MD ID-TMI RMB54442**		(None)
		Verify Telemetry **X2 RNGMD ID-RMI RMB53442**		(None)
		Verify Telemetry **X2 LowRate-1 MD RMB51442**		(None)
		Verify Telemetry **X2 LowRate-2 MD RMB52442**		(None)
		Verify Telemetry **X2 MedRate-MRM RMB50442**		(None)
		Verify Telemetry **X2 HIRateMD-HRM RMB49442**		(None)
		Verify Telemetry **X2 Rang MD - RM RMB48442**		(None)
		Verify Telemetry **X2 Coher MOD-CM RMB47442**		(None)

Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Verify Telemetry **X2 Ext Ref - ER RMB46442**		(None)
		Verify Telemetry **X2 OutPowLevSet RMB56442**		(None)
		Verify Telemetry **X2 IntBitPatGen RMB55442**		(None)
		XPND1/2 analogue TMs		
		Expected configuration (assuming to work with TTC S/S branch 1 and that no TTC failure occured): **- TX1="ON"** **- TX2="OFF"** **- RF Output Power (for active TX)= -4 dBm**		
		Verify Telemetry **TX1 ON-OFF Stat RMB15442**		(None)
		Verify Telemetry **RX1 125-4K Stat RMB17442**	**= 4 Kbps**	(None)
		Verify Telemetry **XPD1_RF1_OUT_PW RMB13442**		(None)
		Verify Telemetry **TX2 ON-OFF Stat RMB16442**		(None)
		Verify Telemetry **RX2 125-4K Stat RMB18442**	**= 4 Kbps**	(None)
		Verify Telemetry **XPD2_RF2_OUT_PW RMB14442**		(None)
		TWTA1/2 TMs		
		Expected configuration (assuming to work with TTC S/S branch 1 and that no TTC failure occured): **- EPC1= "ON"** **- TWT1= "ON"** **- EPC2= "OFF"** **- TWT2= "OFF"**		
		Verify Telemetry **EPC1_ONOFF_STS RMB05439**		(None)
		Verify Telemetry **TWT1_ONOFF_STS RMB09439**		(None)
		Verify Telemetry **EPC2_ONOFF_STS RMB07439**		(None)

Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Verify Telemetry **TWT2_ONOFF_STS** **RMB10439**		(None)
7		*Verify that a Nominal bus profile is selected*		Next Step: 8
		Verify Telemetry **BSW_SDB_ActProf** **DEF5F160**		(None)
8		*Nominal bus profile selected?*		Next Step: 9
9		*IF*		Next Step: Yes 12 No 10
		TC Seq. Name :HFD4003B (Set nominal bus prof) *TimeTag Type: N* *Sub Schedule ID:*		
10		*Send TC(8,4,6,4) to set a Nominal bus profile as the active bus profile*		Next Step: 11
		This TC copies the selected SCBP from the SCBP table to the current active SCBP. **The change of current bus-profile will take affect in the next sub-frame zero.**		
		Execute Telecommand **SelectActiveSCBP** **DC819160** *Command Parameter(s) :* **SCBP** **DH049160** **BUSPRO** *TC Control Flags :* **GBM IL DSE** **--Y -- ---** *Subsch. ID : 10* Det. descr. : Select Active SCBP from SCBP Table		
11		*Wait 1 sec and verify that a Nominal bus profile has been selected*		Next Step: 12
		Control Execution **0000.00.01.000** **WAIT**		
		Verify Telemetry **BSW_SDB_ActProf** **DEF5F160**		(None)

Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		TC Seq. Name :HFD4003C (Check nominal configuration) *TimeTag Type:* *Sub Schedule ID:*		
12		*Send TC(14,6) to verify that the downlink for all TM packets has been enabled*		Next Step: 13
		When CDMU receives this request, the real time down-linking and SSMM storage status are determined for all telemetry packet {Application ID, Type, Sub-Type} and a report (14,7) is generated.		
		Execute Telecommand **RepDownlinkTMStorage** *TC Control Flags :* **GBM IL DSE** **--Y -- ---** *Subsch. ID : 10* Det. descr. : Report Telemetry Packets Down-linking/ Storage Status	**DC141160**	
13		*Verify that TM(14,7) has been received*		Next Step: 14
		Verify Packet Reception **Telemetry Packets DownLinking-Storage Status Report** **(14,7)-1400** *Packet Details:* **APID:** **16** **Type:** **14** **Subtype:** **7** **PI1:** **PI2:**		
		Verify Telemetry **N** **DE042160**		(None)
		The following 5 parameters are repeated N times		
		Verify Telemetry **APID** **DE047160**		(None)
		Verify Telemetry **Type** **DE043160**		(None)
		Verify Telemetry **Sub-Type** **DE046160**		(None)
		Verify Telemetry **Transmit_Flag** **DE048160**		(None)
		Verify Telemetry **Storage_Flag** **DE049160**		(None)

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14		*Downlink for all TM packets enabled?*		Next Step: 15
15		*IF*		Next Step: Yes END No 16
		TC Seq. Name :HFD4003D (Enable downlink) *TimeTag Type:* *Sub Schedule ID:*		
16		*Send TC(14,5) to enable the downlink of all TM packets*		Next Step: 17
		Execute procedure H_FCP_DHS_1003.		
17		*Send TC(14,6) to verify that the downlink for all TM packets has been enabled*		Next Step: 18
		When CDMU receives this request, the real time down-linking and SSMM storage status are determined for all telemetry packet {Application ID, Type, Sub-Type} and a report (14,7) is generated.		
		Execute Telecommand **RepDownlinkTMStorage** *TC Control Flags :* **GBM IL DSE** **--Y -- ---** *Subsch. ID : 10* Det. descr. : Report Telemetry Packets Down-linking/ Storage Status	**DC141160**	
18		*Verify that TM(14,7) has been received*		Next Step: END
		Verify Packet Reception **Telemetry Packets DownLinking-Storage Status Report** **(14,7)-1400** *Packet Details:* **APID:** **16** **Type:** **14** **Subtype:** **7** **PI1:** **PI2:**		
		Verify Telemetry **N** **DE042160**		(None)
		The following 5 parameters are repeated N times		

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Verify Telemetry **APID** **DE047160**		(None)
		Verify Telemetry **Type** **DE043160**		(None)
		Verify Telemetry **Sub-Type** **DE046160**		(None)
		Verify Telemetry **Transmit_Flag** **DE048160**		(None)
		Verify Telemetry **Storage_Flag** **DE049160**		(None)

End of Procedure